

WHAT IS CLAIMED IS:

1. A method for navigation, comprising:
providing a first handheld navigation device, the first navigation device including a triangulation positioning functionality and an integral display;
providing a second navigation device adapted to communicate with the first navigation device, the second navigation device including one or more dead reckoning positioning components;
resolving a position of the first and the second navigation devices, wherein resolving the position includes using the one or more dead reckoning positioning components to determine the position when the triangulation positioning functionality is interrupted.
2. The method of claim 1, wherein providing the first handheld navigation device having a triangulation positioning functionality and an integral display includes providing a handheld multifunction device, and wherein providing the handheld multifunction device includes providing a handheld multifunction device selected from the group of a Personal Digital Assistant (PDA) enabled device and a cell phone enabled device.
3. The method of claim 2, wherein providing a handheld multifunction device selected from the group of a Personal Digital Assistant (PDA) enabled device and a cell phone enabled device includes providing a Personal Digital Assistant (PDA) enabled device and a cell phone enabled device having an integrated compass.
4. The method of claim 1, wherein providing the first navigation device including a triangulation positioning functionality includes using a handheld GPS enabled device.

5. The method of claim 1, wherein providing the second navigation device adapted to communicate with the first navigation device and having one or more dead reckoning components includes providing a hand portable second navigation device which includes a rate gyro sensor.
6. The method of claim 5, wherein providing the second navigation device adapted to communicate with the first navigation device and having one or more dead reckoning components includes providing a hand portable second navigation device which includes an accelerometer sensor.
7. The method of claim 1, wherein providing a second navigation device adapted to communicate with the first navigation device includes providing a first and a second navigation device adapted to wirelessly communicate with one another, and wherein the first and the second navigation devices are adapted to communicate navigation related data wirelessly using a communication technology selected from the group of infra-red signaling, cellular technology, Bluetooth technology, and microwave technology.
8. The method of claim 7, wherein the providing a first navigation device includes providing a handheld first navigation device having an integral display, and wherein the method further includes using the first navigation device to display and to track a movement of the first and the second navigation devices.
9. The method of claim 1, wherein method further includes performing a route calculation using the first navigation device.

10. A method for navigation, comprising:
providing a first mobile device having an integral display, the first mobile device including a GPS positioning functionality;
providing a second mobile device adapted to communicate with the first mobile device, the second mobile device including a dead reckoning functionality, the dead reckoning functionality including an orientation component and a distance detection component;
resolving the position of the first and the second mobile device using the GPS positioning functionality when GPS service is available; and
resolving the position of the first and the second mobile device using the dead reckoning functionality in complement to the GPS positioning functionality when GPS service is degraded.
11. The method of claim 10, wherein the method further includes using one of the GPS positioning functionality and the dead reckoning positioning functionality to calibrate the other when a high level of confidence in accuracy is determined with the one.
12. The method of claim 10, wherein the method further includes retrieving navigation related data from a memory of the second mobile device and displaying the navigation related data on the first mobile device, wherein the navigation related data includes navigation data selected from the group of marine craft data and automobile navigation data.
13. The method of claim 12, wherein the method further includes retrieving navigation related data from a memory of the first mobile device, wherein retrieving navigation related data further includes retrieving navigation related data selected from the group of a number of waypoints, a planned route, and points of interest.

14. The method of claim 13, wherein retrieving navigation related data for points of interest includes retrieving points of interest selected from the group of geographical points of interest, entertainment venues, dining venues, and lodging venues.

15. A method for navigation in a vehicle, comprising:
performing a route calculation using software operable on a first navigation device, the first navigation device including a processor and a memory in communication with the processor, wherein the memory is adapted to store navigation related data, the navigation related data including cartographic data including a number of locations and data indicative of thoroughfares of a plurality of types connecting certain ones of the locations, and wherein the first navigation device includes a triangulation positioning functionality;

tracking a location of the first navigation device using the triangulation positioning functionality and the dead reckoning positioning functionality; and

when tracking the location of the first navigation device is degraded, using a second navigation device, including a distance determination component and an orientation component, to continue tracking the location.

16. The method of claim 15, wherein the method further includes operably coupling the first and the second navigation devices to communicate with one another in a single vehicle.

17. The method of claim 15, wherein using a second navigation device to continue tracking the location includes using a handheld, portable second navigation device, wherein the handheld, portable second navigation device includes a cradle for the first navigation device, wherein the distance determination component

includes an accelerometer sensor, and wherein the orientation component includes a rate gyro.

18. The method of claim 15, wherein using a second navigation device to continue tracking the location includes communicatively coupling the first navigation device to a dead reckoning positioning functionality in the vehicle, wherein the distance determination component includes at least one component selected from the group of an odometer and a speedometer, and wherein the orientation component includes at least one component selected from a differential wheel sensor, a rate gyro, and a compass.

19. The method of claim 15, wherein the method further includes software operable on the first and the second navigation devices for selecting between using the first and the second navigation devices.

20. The method of claim 19, wherein selecting between using the first and the second navigation devices includes resolving which of the first and the second navigation devices is providing a better set of position data.

21. The method of claim 20, wherein resolving which of the first and the second navigation devices is providing a better set of position data includes:

resolving whether the first navigation device is receiving triangulation positioning signals;

resolving whether the second navigation device is receiving triangulation positioning data; and

resolving whether either of the first and the second navigation devices are producing dead reckoning position data.

22. The method of claim 12, wherein tracking the location includes tracking a location of the first and the second navigation device along a planned route and providing visual and audio route guidance.

23. A navigation system, comprising:

a first mobile navigation device including one or more dead reckoning positioning components;

a second mobile navigation device, which can be removably situated in the first mobile device, which includes a triangulation positioning functionality, and which is adapted to communicate with the first mobile device, wherein the second mobile navigation device includes a processor and a memory in communication with one another, the memory adapted to store navigation related data, the navigation related data including cartographic data including a number of locations and data indicative of thoroughfares of a plurality of types connecting certain ones of the locations, and wherein the memory is adapted to store software including software operable to perform routing algorithms; and

wherein the first and the second mobile navigation devices are adapted to resolve a position of the first and the second navigation device using the one or more dead reckoning components of the first mobile navigation device in complement to the triangulation positioning functionality in the second mobile navigation device when the triangulation positioning functionality of the second mobile navigation device is degraded.

24. The navigation system of claim 23, wherein one or more dead reckoning components include at least one component selected from a rate gyro and an accelerometer, and wherein the triangulation positioning functionality includes a GPS receiver.

25. The navigation system of claim 23, wherein the one or more dead reckoning components includes at least one component selected from the group of an odometer, a speedometer, a differential wheel sensor communicatively coupled to two wheels of a vehicle, and a compass.

26. The navigation system of claim 23, wherein the first mobile navigation device further includes a triangulation positioning functionality, and the second navigation device further includes a dead reckoning positioning component.

27. The navigation system of claim 23, wherein the first mobile navigation device includes a processor, a memory, and a set of computer executable instructions operable thereon to perform a route calculation.

28. The navigation system of claim 23, wherein the second mobile navigation device is selected from the group of a multifunction PDA-enabled device and a multifunction cell phone-enabled device.

29. The navigation system of claim 23, wherein the second mobile navigation device, which can be removably situated in the first mobile device, and which is adapted to communicate with the first mobile device, includes a second mobile navigation device which can be removably, physically interfaced to the first mobile device.

30. The navigation system of claim 23, wherein the second mobile navigation device, adapted to communicate with the first mobile device, includes a first and a second mobile navigation device adapted to wirelessly communicate with one another, and wherein the first and the second navigation devices are adapted to communicate navigation related data wirelessly using a communication technology

selected from the group of infra-red signaling, cellular technology, Bluetooth technology, and microwave technology.

31. A vehicle navigation system, comprising:

a first navigation device having a processor, a memory, and a transceiver adapted to communicate with one another, the first navigation device including at least one positioning functionality, the memory adapted to store navigation related data, the navigation related data including cartographic data including a number of locations and data indicative of thoroughfares of a plurality of types connecting certain ones of the locations, and wherein the memory is adapted to store software including software operable to perform routing algorithms,

a second navigation device having a processor, a memory, and a transceiver adapted to communicate with one another, the second navigation device including at least one positioning functionality, the memory adapted to store navigation related data, the navigation related data including cartographic data including a number of locations and data indicative of thoroughfares of a plurality of types connecting certain ones of the locations, and wherein the memory is adapted to store software including software operable to perform routing algorithms;

wherein the transceivers in the first and the second navigation devices are adapted to transmit the navigation related data wirelessly between the first and the second navigation devices; and

wherein the first and the second navigation devices cooperate to resolve a position of the first and the second navigation devices.

32. The system of claim 31, wherein the at least one positioning functionality in the first navigation device includes a GPS functionality and the at least one positioning functionality in the second navigation device includes dead reckoning

positioning functionality, including a distance determination sensor and an orientation sensor.

33. The system of claim 32, wherein the first and the second devices are adapted to resolve the position using the GPS functionality while a strong GPS signal service is being received by the first navigation device, and wherein the first and the second devices are adapted to resolve the position using the dead reckoning positioning functionality in complement to the GPS functionality when a GPS signal service is degraded.

34. The system of claim 31, wherein the first navigation device includes a display operable to display the position and a route to a desired destination, and wherein the first navigation device is adapted to navigate the route to the desired destination using audio and visual guidance.

35. The system of claim 31, wherein the system further includes:
a remote server having a processor, a memory, and a transceiver adapted to communicate with one another, the memory adapted to store navigation related data, the navigation related data including cartographic data including a number of locations and data indicative of thoroughfares of a plurality of types connecting certain ones of the locations, and wherein the memory is adapted to store software including software operable to perform routing algorithms; and
wherein the remote server is adapted to communicate with at least one of the first and the second navigation devices.

36. The system of claim 35, wherein the remote server processor is adapted to respond to a request from at least one of the first and the second navigation devices by performing calculations on the cartographic data and transmitting results to the at least one of the first and the second navigation devices.